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CLAIMS

1. A process for binding sheets together, the binding process comprising the steps of:
 - 5 feeding successive individual sheets to a folding apparatus;
 - folding each sheet along a fold line;
 - applying adhesive to the fold line of selected sheets as they are passed over a supporting surface; and
 - stacking successive sheets such that the fold lines of each sheet are
- 10 substantially aligned.
2. A process as claimed in claim 1, wherein adhesive is applied to the outside of the fold line on all except a final sheet to be stacked.
- 15 3. A process as claimed in claim 1, wherein adhesive is applied to the inside of the fold line of the second and subsequent sheets prior to stacking.
4. A process as claimed in claim 3, wherein the supporting surface
- 20 includes a slot and is part of an adhesive application station through which the sheet is guided in such a way that the inner surface of the fold line in the sheet passes over the slot, and adhesive is applied to the inner surface of the fold line through the slot.
- 25 5. A process as claimed in claim 4, wherein the fold line in the sheet is caused to pass over the slot in the supporting surface by means of driven rollers in or in contact with the supporting surface.
6. A process as claimed in any one of claims 3 to 5, wherein
- 30 application of adhesive is inhibited when a sensor detects the first sheet of a new stack.

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7. A process as claimed in claim 6, wherein the sensor is upstream of the adhesive application station and inhibition of the application of adhesive is delayed for a period corresponding to the time required for the sheet that has been identified as the first sheet of a new stack to reach the adhesive application station.
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8. A process as claimed in any one of the preceding claims, further comprising introducing a cover into the stream of sheets being fed to the folding apparatus after the last sheet of a stack and before the first sheet of a new stack.
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9. A process as claimed in any one of claims 1 to 7, further comprising applying adhesive to either the inner surface of a cover or the outer surface of the last sheet of a stack and adhering the cover to the last sheet of a stack prior to the last sheet of the stack being fed to the folding apparatus.
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10. A process as claimed in any one of the preceding claims, further comprising transporting a complete stack of sheets to a finishing station and applying a compressive force to the spine of the aligned fold lines of the stacked sheets.
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11. A process as claimed in any one of the preceding claims, further comprising applying a compressive force to the spine of the aligned fold lines of a stack of sheets in response to a detected interruption to the sheet feed.
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12. A process as claimed in any one of the preceding claims, comprising temporarily inhibiting registration of a first sheet of a new stack on a stacking area whilst a complete stack of sheets is transported away from the stacking area.
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13. A process as claimed in claim 12 wherein registration is inhibited by

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holding a leading edge of the first sheet above its position on the stacking area.

14. A process as claimed in claim 12 wherein registration is inhibited by
5 holding the first sheet above the stacking area.

15. A process as claimed in any one of claims 12 to 14, further comprising releasing the first sheet or leading edge thereof to fall under gravity to the stacking area once the complete stack of sheets has cleared
10 the stacking area.

16. A process as claimed in any one of claims 12 to 15 wherein the sheets are printed sheets, output from a digital printing process, and successive individual sheets are fed to the binding process in an almost
15 continuous feed.

17. A process for binding a plurality of glued sub-sections together, wherein each sub-section is produced in accordance with any one of claims 1 to 16, and then aligned and further bound to form a single book.
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18. Binding apparatus for binding sheets together, the apparatus comprising:

sheet folding apparatus for individually folding sheets along a fold line;

25 a supporting surface on which the sheets are supported as adhesive is applied from an adhesive applicator to the fold line of selected sheets prior to stacking; and

a sheet collector for stacking successive sheets such that the fold lines of each sheet are substantially aligned.

30 19. Binding apparatus as claimed in claim 18 wherein the adhesive applicator is mounted above the supporting surface and is arranged to

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deliver adhesive downwardly onto the outside of the fold line.

20. Binding apparatus as claimed in claim 18 or 19 wherein the adhesive applicator is mounted in or adjacent a slot in the supporting surface and is arranged to deliver adhesive upwardly through the slot to the inside of the fold line.

5 21. Binding apparatus as claimed in claim 20, wherein the adhesive applicator is arranged to deliver adhesive to the second and subsequent sheets of a stack.

10 22. Binding apparatus as claimed in any one of claims 18 to 21, wherein the supporting surface includes one or more driven rollers to urge passage of a sheet along the surface.

15 23. Binding apparatus as claimed in any one of claims 18 to 22, wherein the sheet collector comprises a stacking area with collection arm and a first retractable finger arranged above a downstream end of the stacking area.

20 24. Binding apparatus as claimed in claim 18, wherein the collector also comprises a second retractable finger, the retractable fingers being arranged above the stacking area.

25 25. Binding apparatus as claimed in any one of claims 18 to 22, wherein the sheet collector comprises a stacking area for receiving sequential delivery of part-folded sheets and a finger located above a downstream end of the stacking area and arranged for rotation about an axis substantially transverse to the sheet transport direction.

30 26. A sheet collector comprising:
a saddle for receiving sequential delivery of part-folded sheets;
a front stop and back stop for encouraging alignment of the sheets into a

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stack; and
a removal means for, on completion of the stack, transferring the stack outside of the collector; wherein
the back stop includes a rotatable element arranged such that when in a
5 first position the element forms an extension of the back stop and when in a second position the element protrudes from the back stop so as to form a finger which is capable of intercepting and holding sheets being delivered to the collector.

10 27. A sheet collector according to claim 26 wherein, when in its second position, the rotatable element is clear of the saddle and the removal means is arranged to push the completed stack along the saddle and underneath the rotatable element, thereby removing the stack from the collator.

15 28. A sheet collector according to claim 26 or 27 wherein the collector includes driving means capable of rotating the rotatable element about an axle passing substantially centrally therethrough.

20 29. A sheet collector according to claim 28 wherein the driving means is arranged to rotate the rotatable element in a sense that moves a lower portion of the element away from the sheet stack.

25 30. A sheet collector according to claim 28 or 29 wherein the driving means is also capable of oscillating the rotatable element when in its first position.

30 31. A sheet collector according to any one of claims 26 to 30 wherein the rotatable element has edges arranged such that, when in its first position, the element presents a substantially vertical edge to the sheet stack and, when in its second position, presents an edge substantially parallel to a longitudinal axis of the saddle.

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32. A sheet collector according to claim 31 wherein the edges form a quadrilateral.

5 33. A sheet collector according to claim 31 or 32 wherein the rotatable element is symmetric such that only a partial rotation is required to move it between first and second positions, thereby enabling different orientations of the element in its first and / or second position.

10 34. A sheet collector according to claim 33 wherein the edges form a parallelogram.

35. A sheet collector according to any one of claims 26 to 34 wherein the rotatable element comprises two separated, substantially parallel, plates arranged such that when in its first position, the plates extend below an uppermost level of the saddle.

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36. Binding apparatus for binding sheets together, the apparatus comprising:

20 sheet folding apparatus for individually folding sheets along a fold line;

25 a supporting surface on which the sheets are supported as adhesive is applied from an adhesive applicator to the fold line of selected sheets prior to stacking; and

25 a sheet collector in accordance with any one of claims 26 to 35 for stacking successive sheets such that the fold lines of each sheet are substantially aligned.